

Applicants: Beachy and Taipale
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Lynn Chin
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PATENT
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Amendments to the Claims:

Please amend claims 1 and 32 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for identifying constitutively activating mutations in a receptor or an ion channel, comprising:
 - (A) providing a library of coding sequences for potentially activating mutations of a candidate receptor or ion channel, which library is generated by replacing coding sequences for small or medium side-chain amino acids with coding sequences for large side-chain amino acids, wherein said small or medium side-chain amino acids are located in or proximate to a transmembrane segment of the receptor or ion channel, wherein the mutation is conservative with respect to charge;
 - (B) expressing said library in mammalian host cells;
 - (C) measuring the activity of the encoded receptor or ion channel in said mammalian host cells; and
 - (D) identifying those coding sequence(s) which encoded activated receptors or ion channels.

Claims 2-3 (Canceled)

4. (Original) The method of claim 1, wherein the receptor is a multipass transmembrane receptor.
5. (Original) The method of claim 4, wherein the receptor is a 7TM receptor selected from the group consisting of: a G-protein coupled receptor, a chemoattractant peptide receptor, a neuropeptide receptor, a light receptor, a neurotransmitter receptor, and a polypeptide hormone receptor.